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Efficacy of a burn-specific cognitive-behavioral group training

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ABSTRACT

Objective: The aim of the present study was to evaluate the efficacy of a newly developed cognitive-behavioral group training, specifically designed for burn patients.
Method: In a multicenter-study data pre- and post treatment and at 6-month follow-up were obtained from participants of the group program (Intervention group, IG; $n = 86$) and a control group who received treatment as usual (TAU; $n = 128$). Outcome variables of psychological distress, resources and health-related quality of life of both groups were compared using linear mixed models.
Results: Up to 6 months after group treatment, the IG reported a substantial decline of general symptom severity as well as posttraumatic stress, whereas the TAU group showed no significant change over time. Optimism increased in the IG after group treatment, but not in the TAU group. Regarding overall quality of life both groups showed a gradual improvement over the three assessment points.
Conclusion: he newly developed burn-specific cognitive-behavioral group intervention had positive effects on psychological well-being and resources of burn participants. As a consequence, the group intervention has been implemented as inherent part of the regular burn treatment in two rehabilitation centers in Germany.

1. Introduction

Due to the improvement of intensive care procedures for severely burned patients the probability of survival has increased enormously in the last decades [1]. This development has led to the question of long-term health-related quality of life (HRQoL) of surviving burn patients. The extent of patients' HRQoL – including not only physical functioning but also mental health and social participation – is a broadly accepted construct in research and clinical practice to evaluate overall rehabilitation outcomes [2]. Recent studies showed that burn patients report high levels of psychosocial resources such as social support, optimism, and self-efficacy [3,4]. However, coping with the consequences of a burn injury, such as pain, functional limitations, aesthetic changes, and intruding memories of the accident is psychologically distressing for many patients. Especially the time after discharge is a challenging phase, because patients have to deal with the physical disabilities and the organization of medical aftercare in their daily lives [5]. Outside the hospital, many burn victims fear negative reactions from the social environment regarding

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their injured body and therefore withdraw socially [6]. Compared to the general population, increased prevalence rates of post-burn mental disorders are reported among burn patients [7–9]. Rates vary due to various methodical aspects, such as different diagnostic inventories or assessment time points. Studies using structured diagnostic interviews such as Structured Clinical Interview for DSM-IV Axis I Disorders (SCID-I) [10] or Composite International Diagnostic Interview for DSM-IV (CIDI) [11] report particularly high rates of alcohol dependency [7], depressive disorders [7–9], and anxiety disorders, notably posttraumatic stress disorder (PTSD) [7–9]. In a six-month follow-up more than half of the total burn sample (55%) met the criteria for at least one mental disorder according to the SCID interview. Of those with no prior Axis I disorder, 37% developed a mental disorder after the burn injury [7]. Furthermore, pre-existing psychological impairment is often reported for burn samples [12,13] and is proofed to have an impact on perceived health after burn [14]. SCID interviews with burn patients revealed that about 60% of the patients met the criteria for at least one Axis I disorder in pre-burn history [12,13]. Prevalence rates of mental disorders among burn patients indicate that a significant proportion of burn patients would probably benefit from psychological care after discharge. In contrast, only a small percentage of patients receive post-burn psychological care. In a study by Wisely and Tarrier [15], only 6% of burn patients consulted a psychologist or psychiatrist after discharge from acute care. In 6-months post-burn SCID interviews, 27% of the interviewed burn patients reported unequivocal treatment need and 32% indicated probable need for psychological or psychiatric care [16]. However, less than half of patients with unequivocal need received psychiatric care (crisis intervention by a psychiatric nurse, out- or inpatient care in psychiatric unit) and no one in the complete sample received regular psychotherapy after discharge. The gap between the need for psychological aftercare and the actual psychological consultations can partly be explained by the fact that only a minority of burn patients received a psychological screening during medical acute- or aftercare. Thus, the need for psychological assistance might be overlooked [17].Various studies showed that psychological distress, e.g., depressive symptoms and post-traumatic stress are significant predictors for poor long-term HRQoL of burn patients [18–20]. Psychological interventions to support adjustment after injury seem to be promising for improving long-term HRQoL of severely burned patients [19]. Although many studies come to the same conclusion, the offer of specific psychological treatment for burn patients is scarce [16,21]. In Europe, no evaluated burn-specific psychological intervention for adults exists so far. To contribute to the improvement of psychological care for burn victims after discharge, our research group has developed and evaluated a burn-specific cognitive-behavioral group training.

1.1. *Development, aims and contents of the group training*

In a prospective multicenter-study, quality of life and long-term outcome after burn injury were assessed at 5 time points up to five years after the injury in 382 burn patients [18,22]. In addition, qualitative interviews with burn patients and their families were conducted concerning long-term consequences of a burn injury [6]. Based on clinical experience, the results of the longitudinal study, and the information received from the interviews, the training manual specially tailored to the needs of burn survivors was developed [23,24].

The aim of the group treatment is to support participants in coping with the long-term consequences of burn injuries and to prevent psychological distress and social avoidance behavior. The resource-oriented group intervention does not contain trauma-focused approaches and it does not intend to replace individual psychological psychotherapy. Rather, the program aims to reduce the threshold to seek further individual psychological treatment if needed.

During acute burn care, many inpatients are unable to leave the bed or need to be temporarily isolated because of the danger posed by multi-resistant germs. Furthermore, the psychological processing of the experienced trauma often sets in later as a delayed response to the accident [25]. Therefore, the time immediately after discharge is a challenging phase, in which many patients would benefit from additional professional support [6,15]. With these aspects in mind, the burn-specific group training described below was designed for all burn patients in the rehabilitation phase or in outpatient aftercare.

The program consists of eight sessions with 4–8 participants. Groups were led by one or two psychologists. In addition to psycho-education about possible psychological stress reactions, development of scars, and consequences of social withdrawal, group members were encouraged to share their own experiences on these issues. In role-plays, participants practiced different responses to deal with negative reactions of the social environment on their scars or disfigurement. The program combines sections of social skills training that have been shown to be effective for people with disfigurements [26], programs for prevention of depression [27] and stress management [28]. The composition and adaptation of these cognitive-behavioral techniques were specifically tailored to the reported needs of burn victims. An overview of the program's contents is provided in Table 1.

To evaluate its efficacy, the group intervention was offered to patients at three burn units and two rehabilitation centers in Germany. This paper presents results of the efficacy of the group training.

2. Methods

2.1. *Recruitment and study design*

The study was approved by the Ethics Committee of the State Chamber of Medicine in Rheinland-Pfalz (Germany). The program was conducted at five burn centers in Germany. In the acute care Burn Units in Berlin, Ludwigshafen and Hamburg, the program was offered to outpatients after the end of their acute hospital stay. In the rehabilitation centers in Bad Klosterlausnitz and Passauer Wolf, the program was offered to burn patients who were treated in an inpatient rehabilitation center after acute care. Group leaders were psychologists or psychotherapists who were trained in